

Notice of Allowability	Application No.	Applicant(s)	
	09/726,548	OKADA ET AL.	
	Examiner	Art Unit	
	Geoffrey L. Knable	1733	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--
All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

- 1. ☒ This communication is responsive to interview of 9-26-2005 reaching agreement on claim amendments.
 - 2. ☒ The allowed claim(s) is/are 1,4,5 and 8.
 - 3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 - 1. ☒ Certified copies of the priority documents have been received.
 - 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

- 4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 - 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
- 6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

- Attachment(s)**
- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Brian K. Dutton on September 26, 2005.

The application has been amended as follows:

In the claims:

Claim 1 has been amended as follows:

1. (Currently amended) A tire forming system including a band forming machine, a shaping forming machine and a belt/tread forming machine, in each of which setting conditions of a tire size can be optionally changed, and having transport means for delivering a semi-fabricated product to each forming machine, wherein as means for supplying a band member there are provided:

(1) inner liner supply means for cutting a inner liner sheet material having a width, in which a splice margin is added to a band periphery length, to a length corresponding to a specification width of a formed tire, and supplying the cut inner liner to the band forming machine;

(2) carcass supply means for cutting a carcass sheet material having a width, in which a splice margin is added to a band periphery length, to a length corresponding

Art Unit: 1733

to a specification width of the formed tire, and supplying the cut carcass to the band forming machine;

(3) band rubber parts supply means for injecting a rubber strip from an injection unit, winding the rubber strip around a drum of the band forming machine, and forming, on the basis of its laminated structure, rubber parts having a profile corresponding to a specification of the formed tire; and

(4) bead supply means for supplying a completed bead corresponding to a specification of the formed tire to the band forming machine through a bead setter; and
as means for supplying a belt/tread member there are provided:

(5) belt supply means for cutting a belt strip material, in which plural cords are arranged and rubberized, to predetermined length and angle, mutually splicing edge portions of the plural cut strip pieces to form a belt for one tire, which has a length, a cord angle and a width corresponding to specifications of the formed tire, and supplying the belt to the belt/tread forming machine; and

(6) tread rubber parts supply means for injecting a rubber strip from an injection unit, winding the rubber strip around a drum of the belt/tread forming machine, and forming, on the basis of its laminated structure, rubber parts having a profile corresponding to a specification of the formed tire,

wherein the means for supplying the band member and the means for supplying the belt/tread member are operative to cooperate with one another to continuously in series form a plurality of tires having different tire sizes yet a same bead inner diameter and

Art Unit: 1733

wherein the bead supply means holds plural kinds of completed beads each having a bead core corresponding to the band periphery length, selects the completed bead corresponding to the specification of the formed tire from the plural kinds of completed beads, and supplies the selected completed bead to the band forming machine through the bead setter, and

wherein the drum of the band forming machine is movable between a position facing the band rubber parts supply means for winding of the rubber strip and a position for winding of the supplied cut inner liner and cut carcass.

Claim 5 has been amended as follows:

5. (Currently amended) A tire forming method using a tire forming system including a band forming machine, a shaping forming machine and a belt/tread forming machine, in each of which setting conditions of a tire size can be optionally changed, and having transport means for delivering a semi-fabricated product to each forming machine, wherein as a process for supplying a band member there are provided:

(1) an inner liner supply process for cutting a inner liner sheet material having a width, in which a splice margin is added to a band periphery length, to a length corresponding to a specification width of a formed tire, and supplying the cut inner liner to the band forming machine;

(2) a carcass supply process for cutting a carcass sheet material having a width, in which a splice margin is added to a band periphery length, to a length

Art Unit: 1733

corresponding to a specification width of the formed tire, and supplying the cut carcass to the band forming machine;

(3) a band rubber parts supply process for injecting a rubber strip from an injection unit, winding the rubber strip around a drum of the band forming machine, and forming, on the basis of its laminated structure, rubber parts having a profile corresponding to a specification of the formed tire; and

(4) a bead supply process for supplying a completed bead corresponding to a specification of the formed tire to the band forming machine through a bead setter; and
as a process for supplying a belt/tread member there are provided:

(5) a belt supply process for cutting a belt strip material, in which plural cords are arranged and rubberized, to predetermined length and angle, mutually splicing edge portions of the plural cut strip pieces to form a belt for one tire, which has a length, a cord angle and a width corresponding to specifications of the formed tire, and supplying the belt to the belt/tread forming machine; and

(6) a tread rubber parts supply process for injecting a rubber strip from an injection unit, winding the rubber strip around a drum of the belt/tread forming machine, and forming, on the basis of its laminated structure, rubber parts having a profile corresponding to a specification of the formed tire,

wherein the forming system is operative to continuously in series form a plurality of tires having different tire sizes yet a same bead inner diameter and

wherein, in the bead supply process, plural kinds of completed beads each having a bead core corresponding to the band periphery length are prepared and held,

Art Unit: 1733

the completed bead corresponding to the specification of the formed tire is selected from the plural kinds of completed beads being held, and the selected completed bead is supplied to the band forming machine through the bead setter, and

wherein the drum of the band forming machine is movable between a position for receiving the wound strip in the band rubber parts supply process and a position for winding of the supplied cut inner liner and cut carcass.

Summary of above noted September 26, 2005 interview: Agreement was reached on the above noted changes to claims 1 and 5 in order to place this application into condition for allowance, these changes further defining the movement/movement capability of the drum in the band forming machine as well as bringing the description of the bead supply in the method claims more consistent with that in the system/apparatus claims (support for example from page 21, line 3 to page 22, line 4 as well as the figures).

Reasons for Allowance

2. The following is an examiner's statement of reasons for allowance:

The prior art applied in the final rejection is considered to represent the closest prior art and (as detailed in the prior office actions) suggests a tire forming system/method that generally includes inner liner/carcass/band/bead/belt/tread supply means/processes. Further, in this art, it is generally known to move a tire building drum among several stations. However, in the context of the overall and specific tire forming

Art Unit: 1733


system/method as now claimed, additionally providing the drum of the band forming machine to be movable between a position facing the band rubber parts supply means for winding of the rubber strip and a position for winding of the supplied cut inner liner and cut carcass, is not considered to have been reasonably suggested or rendered obvious, it being especially noted that the overall system reference, Irie (US 4,468,267), would not suggest this and further with respect to strip winding, Laurent (US 4,963,207) would suggest preferably all strip winding at a single location as well as on a toroidal form (e.g. fig. 4) while Brown et al. (US 5,554,242) would teach away from moving the drum among stations for strip winding and then winding the liner or carcass (note esp. fig. 10 in which the band drum 70 does not move between positions as claimed). Further, and as emphasized by applicant in the reply brief filed 10-6-2004, the closest prior art would also not reasonably and clearly teach, in the context of the overall claimed tire forming system/method as now claimed, the bead supply means holding plural kinds of completed beads, the complete bead corresponding to the specification of the formed tire being selected from the plural kinds of completed beads being held and supplied as claimed. None of the closest prior art, then, whether taken singly or in combination, would teach or render obvious a tire forming system/method as presently claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey L. Knable whose telephone number is 571-272-1220. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on 571-272-1171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Geoffrey L. Knable
Primary Examiner
Art Unit 1733

G. Knable
October 3, 2005